



Traditional Chinese Medicine and Other Complementary and Alternative Medicine Use Among Chinese Cancer Patients in British Columbia, Canada

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Presentation Overview



- Rationale and Objectives
- Study Methodology
- Results
- Discussion & Conclusion
- Next Steps

TCM/CAM Utilization in Adult Patients with Cancer



- Canadians: 46%
- Chinese: 69%
- Common therapies include:
 - Multi-vitamins, herbs, support groups, prayer
- Factors associated with CAM use:
 - Female sex, younger age, higher SES, prior CAM use, advanced disease, side effects



Rationale

- No Canadian studies quantitatively document CAM use in a specific ethno-cultural group
- Chinese form the largest ethno-cultural group in British Columbia (9.4% of provincial population)
 - Richmond – 39%
 - Vancouver – 30%
 - Burnaby – 26%
- TCM and complementary/alternative health service utilization of this population needs to be addressed

Research Objectives



Primary

1. To estimate the prevalence of TCM/CAM use among newly diagnosed Chinese cancer patients
2. To identify socio-demographic, medical, & cultural characteristics associated with TCM/CAM use

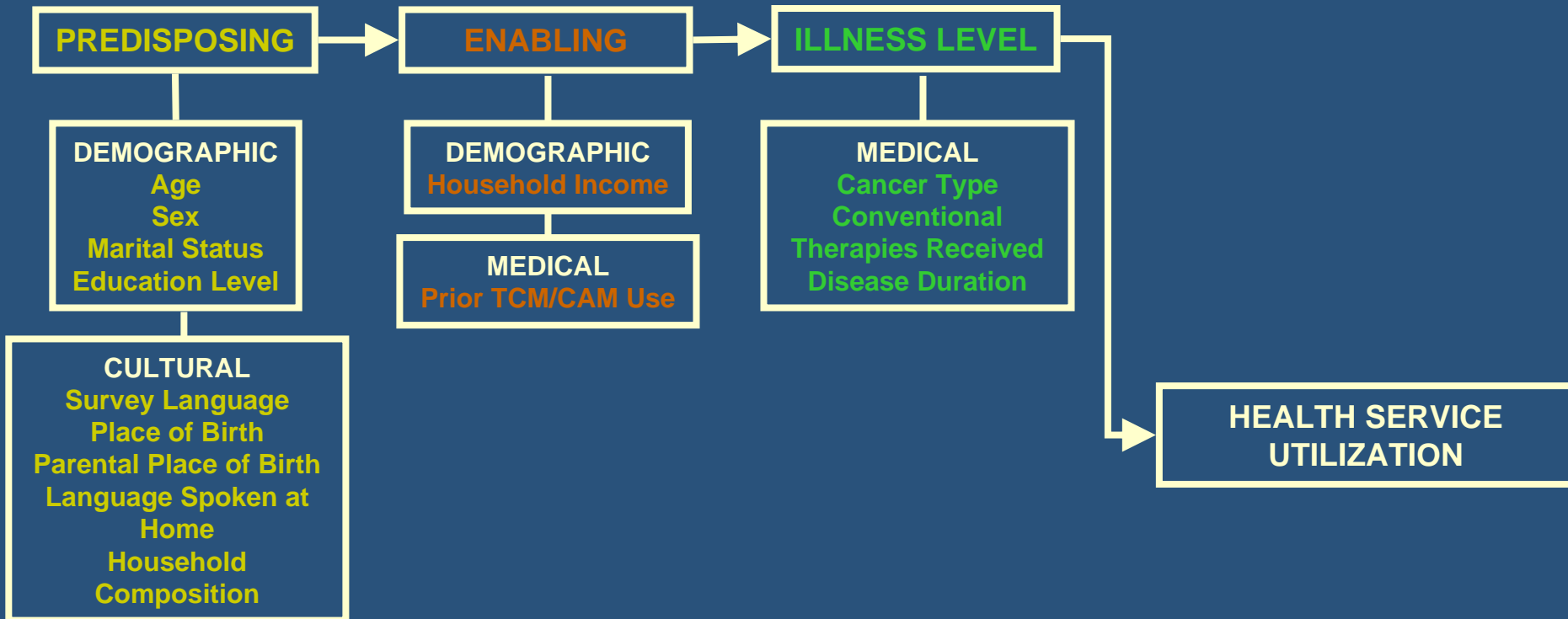
Secondary

3. To explore differences between acculturated & less acculturated patients

Study Methodology



Andersen & Newman's Model of Health Service Utilization¹



¹Andersen R, Newman JF. Societal and individual determinants of medical care utilization in the United States. Milbank Mem Fund Q Health Soc 1973;51(1):95-124.

Sample Characteristics



- All newly diagnosed Chinese cancer patients from two centres were invited to participate
 - Family origins: China, Hong Kong, Taiwan
- Inclusion criteria
 - First visit to the cancer centre
 - All tumour sites
 - >18 years of age
 - Speak English, Mandarin, or Cantonese
 - Well enough to participate
- Cross-sectional study, incident cases

Survey questionnaire



- Based on previous research (Leis et al.) & expert review
- Self-administered, 15-item, structured 5-minute survey
- Bilingual (English and Chinese)
 - Back Translation technique used
- Yes/No, “check all that apply”
 - Anticipated communication barriers
- Completed along with admitting BCCA forms and returned in designated boxes or submitted to research assistant

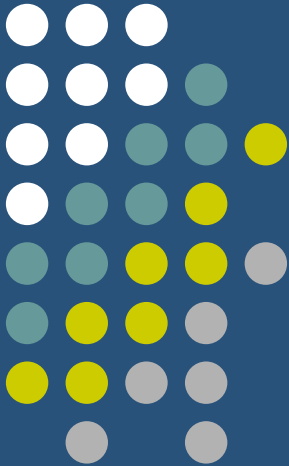
Defining Acculturation



- Origin in anthropology
- Broadly defined as “assimilation into the dominant culture”
- Used extensively in health research to examine association with health service utilization
- Measurement complicated by other factors:
 - Education
 - Income
 - Geography
- In the present study, combination single-item proxy measure
 - Verified in previous cross-cultural research¹
- Patients’ place of birth, survey language, language spoken at home

¹Salant T, Lauderdale DS. Measuring culture: a critical review of acculturation and health in Asian immigrant populations. Soc Sci Med 2003;57(1):71-90.

Results

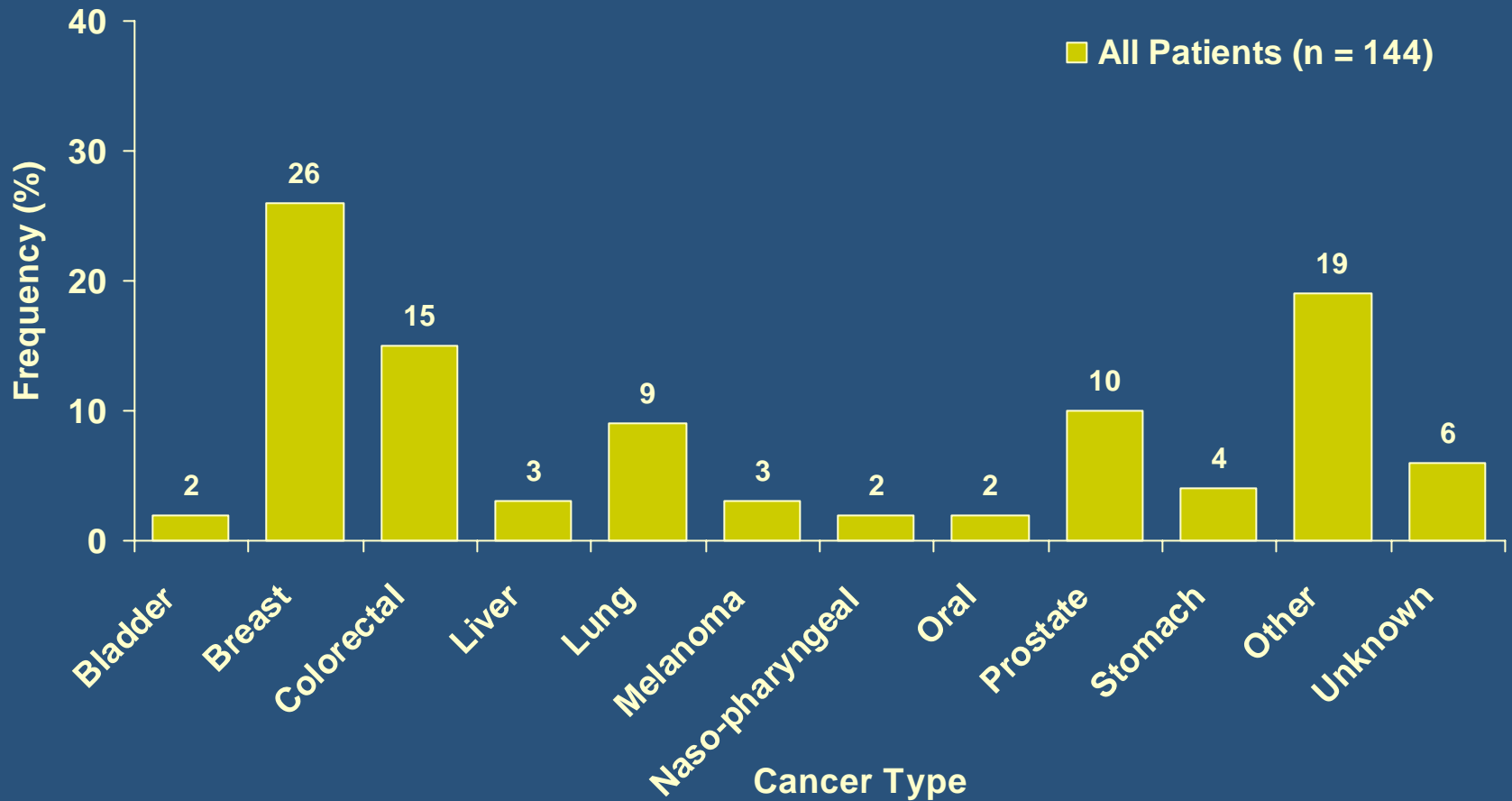


Univariate Analysis: Patient Characteristics

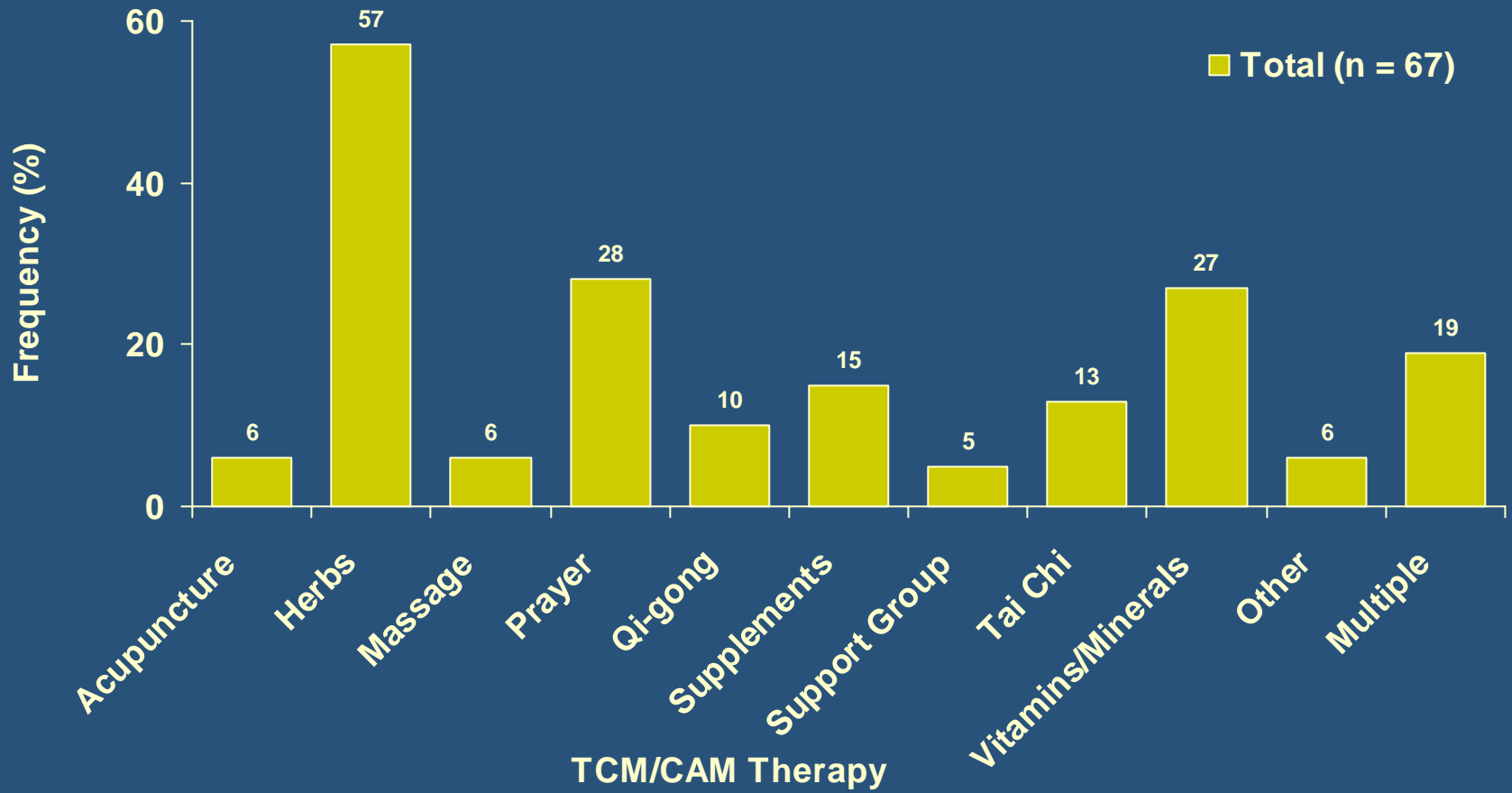


Variable	Frequency	Percentage
Sample size	144	
Age (years)		60.4 ± 15.8
Female	85	59%
Disease duration (months)		2.2 ± 2.2
Underwent conventional treatment(s)	100	71%
Chinese survey	81	56%
Immigrant status	131	92%
Non-official mother tongue	120	83%
Less acculturated	80	56%
Married	107	75%
Immediate family	137	96%
≥ High school diploma	91	64%
≤ \$40,000	69	48%
Prior TCM/CAM use	51	36%
Current TCM/CAM use	67	47%

Univariate Analysis: Distribution of Cancer Types



Univariate Analysis: Types of TCM/CAM Used



Bivariate Analysis: Socio-demographics



Variable, n(%)	Users	Non-users	OR (95% CI)	P-value
Age [†]	58.1 ± 15.5	62.3 ± 15.9	n/a	0.116
Sex				
Male	19 (29)	39 (51)		
Female	47 (71)	38 (49)	2.539 (1.267, 5.089)	0.008
Marital Status				
Single*	15 (22)	20 (26)		
Married**	52 (78)	57 (74)	1.216 (0.564, 2.621)	0.617
Education				
< HS diploma	22 (33)	29 (38)		
≥ HS diploma	45 (67)	48 (62)	1.236 (0.621, 2.457)	0.546
Income				
≤ \$40,000	38 (57)	31 (40)		
> \$40,000 ^{††}	5 (8)	16 (21)	0.346 (0.112, 1.068)	0.059
Did not respond	24 (35)	30 (39)	0.856 (0.422, 1.858)	0.851

[†] t-test performed.

^{††} Fisher's Exact test performed.

* Includes widowed and divorced individuals.

** Includes common-law individuals.

Bivariate Analysis: Medical Characteristics



Variable, n(%)	Users	Non-users	OR (95% CI)	P-value
Disease Duration*	2.7 ± 2.7	1.9 ± 1.7	n/a	0.186
Prior TCM/CAM Use				
No	29 (44)	63 (82)		
Yes	37 (56)	14 (18)	5.741 (2.696, 12.229)	<0.001
Conventional Treatments				
No	13 (19)	29 (38)		
Yes	54 (81)	48 (62)	2.510 (1.172, 5.372)	0.016

* t-test performed.

Bivariate Analysis: Cultural Characteristics



Variable, n(%)	Users	Non-users	OR (95% CI)	P-value
Survey Language				
English	22 (33)	41 (53)		
Chinese	45 (67)	36 (47)	2.330 (1.182, 4.591)	0.014
Place of Birth[†]				
Canada	2 (3)	10 (13)		
Outside Canada	65 (97)	67 (87)	4.851 (1.023, 22.993)	0.036
Language Spoken at Home[†]				
Official	6 (9)	18 (23)		
Non-official	61 (91)	59 (77)	3.102 (1.152, 8.354)	0.021
Household Composition[†]				
Immediate Family*	65 (97)	77 (100)		
Extended Family	2 (3)	0 (0)	n/a	0.215
Level of Acculturation				
High	22 (33)	42 (55)		
Low	45 (67)	35 (45)	2.455 (1.245, 4.841)	0.009

[†] Fisher's Exact test performed.

* Includes living alone, with partner/spouse, parent(s), and/or children/grandchildren.

Multivariate Analysis: Predictors of TCM/CAM Use



n = 142

Variable	Adjusted OR	95% CI	P-value
Age	0.991	0.966, 1.017	0.502
Female	1.929	0.852, 4.369	0.115
Less Acculturated	3.143	1.204, 8.202	0.019
Prior TCM/CAM Use	8.439	3.373, 21.114	<0.001
Underwent Conventional Treatment(s)	1.041	1.041, 6.457	0.041

Acculturation Analysis: Socio-demographics



Variable, n(%)	Acculturated	Less Acculturated	OR (95% CI)	P-value
Age [†]	60.6 ± 17.1	60.1 ± 14.8	n/a	0.852
Sex ^{††}				
Male	23 (36)	35 (44)		
Female	41 (64)	44 (56)	0.705 (0.358, 1.387)	0.311
Marital Status ^{††}				
Single*	23 (36)	12 (15)		
Married**	41 (64)	68 (85)	3.179 (1.431, 7.063)	0.004
Education [†]				
< HS diploma	23 (36)	28 (35)		
≥ HS diploma	41 (64)	52 (65)	1.042 (0.524, 2.071)	0.907
Income ^{††}				
≤ \$40,000	24 (38)	45 (56)		
> \$40,000	14 (22)	7 (9)	0.267 (0.095, 0.750)	0.010
Did not respond	26 (40)	28 (35)	0.574 (0.277, 1.190)	0.134

[†] t-test performed.

^{††} Fisher's Exact test performed.

* Includes widowed and divorced individuals.

** Includes common-law individuals.

Acculturation Analysis: Medical Characteristics



Variable, n(%)	Acculturated	Less Acculturated	OR (95% CI)	P-value
Disease Duration [†]	1.9 ± 1.9	2.8 ± 2.5	n/a	0.115
Prior TCM/CAM Use ^{††}				
No	38 (60)	54 (68)		
Yes	25 (40)	26 (32)	0.732 (0.368, 1.456)	0.373
Conventional Treatments ^{††}				
No	23 (36)	19 (24)		
Yes	41 (64)	61 (76)	1.801 (0.872, 3.719)	0.110

[†] t-test performed.

^{††} Fisher's Exact test performed.

Discussion





Utilization of TCM/CAM

- Distribution of cancer types comparable to 2006 incidence estimates for British Columbia
- TCM/CAM prevalence similar to studies conducted in North America (Caucasian & Chinese-American patients)
- TCM/CAM prevalence lower than studies conducted in Asia
 - May reflect limited availability/accessibility & acceptance of TCM/CAM in North America



Types of TCM/CAM Used

- Chinese-Canadians are a distinct group
 - Herbal remedies similar to Asian studies
 - Vitamins/minerals similar to North American studies
- Differences highlight importance of cross-cultural research and the need to explore ethnicity/culture in understanding use of CAM for cancer care

Relationship Between Income and Acculturation



- Less acculturated patients more likely to report a low income
- Previous studies reported an association of high SES with CAM use in dominant culture
 - Highly acculturated patients may use disposable income to try all possible treatments, including CAM
- Less acculturated patients may have stronger belief in TCM/CAM, thus use therapies despite limited income and high financial costs
 - Patients may have strong ties with family who can send TCM/CAM overseas



Study Strengths

- Novel research
- Theoretical framework appropriate for study
- Bilingual recruitment & survey
 - Bilingual translator on site for patients
 - Back Translation utilized
- Study allows for follow-up
 - Transition from new to established diagnoses



Study Limitations

- Small sample size
- Selection bias:
 - Convenience sample
 - Geographic restriction, affect external validity
 - Volunteer bias (< 80% response rate)
 - Taboo to discuss cancer diagnosis
 - Patients who arrive early enough to complete survey
- Measurement bias:
 - Patients may not consider TCM as CAM
 - Definition of acculturation was limited



Conclusion

- TCM/CAM is widely used among newly diagnosed Chinese cancer patients; influenced by predisposing, enabling, and illness level factors
- Level of acculturation plays an important role in the decision to use TCM/CAM for cancer care
- TCM/CAM not used as a “last resort”
 - Discussions about CAM need to occur early in diagnosis
 - Open dialogue with patients
 - Understand reasons for using TCM/CAM
 - Prevent adverse events (herb-drug interactions)
- Less acculturated, low income are more likely to use TCM/CAM

Future Research in this Population



- Continue data collection (increase power)
- Cross-sectional → longitudinal
 - Study transition of patients from new to established diagnoses (compare with Chiu et al.)
- Incorporate validated measures:
 - Acculturation (SL-ASIA)
 - Clinical endpoints (EORTC-QOL)
- More information:
 - Beliefs about health/disease, TCM/CAM, and conventional medicine
 - Reasons for using TCM/CAM, satisfaction with treatments
 - Sources of TCM/CAM highlights importance of developing appropriate methodologies that distinguish cultural effects from those due to socio-demographic/economic factors when studying minority populations

Questions...?

